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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/085,595 | 02/26/2002 | Nitinkumar Ratilal Patel | GP-301019 | 7088 |

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| EXAMINER |
|---|
| SMITH, TYRONE W |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2837 | |

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Offic Action Summary | Application No. 10/085,595 | Applicant(s) PATEL, NITINKUMAR RATILAL |
|---|---|---|
| | Examiner Tyrone W Smith | Art Unit 2837 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. The drawings are objected to for the following reasons: 1) Figure 1 and 4, Examiner requests that the items numbers on the graphs for indicated/labeled 2) Figure 3 item 64, Examiner request that item 64 is indicated as an "signal conditioning circuit". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 24 rejected under 35 U.S.C. 102(b) as being anticipated by Jansen et al (5565752).

Regarding Claims 1, 2, 10 – 12, 16 and 19. Jansen discloses a filters and coordinate transform or the sensing circuit (Figure 1 item 46; column 5 lines 11 – 35) generates d-axis and q-axis negative stationary current signals. Within the position and velocity observer (Figures 1 and 6 item 43; column 5 lines 11 – 58) uses a heterodyning process or signal conditioning circuit (Figure 6 item 97; column 7 lines 25 – 67, column 8 lines 1 – 37 and column 23 lines 1 – 23) combines the d and q axis signals with a first positive feedback signal that is based on a rotor position estimate signal (Figure 6 item 96; column 7 lines 25 – 67 and column 8 lines 1 - 37) to generate modified d and q-axis signals. Further, Jansen discloses an observer controller

or regulator (Figure 6 item 101; column 7 lines 25 – 67 and column 8 lines 1 - 37) coupled to the output of the heterodyning process or signal conditioning circuit and a mechanical system simulator (Figure 6 item 95; column 7 lines 25 – 67 and column 8 lines 1 - 37) that is coupled to an output of the observer controller or regulator that generates rotor position estimate signal.

Regarding Claim 3 and 13. The mechanical system model receives a demand torque (Te) signal in Figure 6 of Jansen.

Regarding Claim 4, 6 – 7, 20, and 22 – 23. In Figure 6 of Jansen, the Heterodyning Process/Signal Conditioning circuit includes a first multiplier(s) (items 103 and 104) having first inputs that receive the d-axis and q-axis signals. Further, a second multiplier (item 98) having inputs that receive the modified d-axis and q-axis signals from the first multiplier(s) and an output coupled to the observer controller/regulator.

Regarding Claim 5, 8, 14 – 15, 17 – 18 and 24. In Figure 6, the Heterodyning Process/Signal Conditioning Circuit includes a similar version of the second harmonic amplifying circuit and a inverse saliency model (item 97; column 23 lines 18 – 23); both receives the rotor position estimate signal and output the second multiplier.

Regarding Claim 9. The observer controller or regulator, that generates rotor position estimate signal, is selected from a group of proportional, proportional integral, proportional integral differential and limited PI regulators in Figure 6 item 101.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W Smith whose telephone number is 703-306-5987. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached on (703) 308-3370. The fax phone number for the organization where this application or proceeding is assigned is 703-308-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Tyrone Smith
Patent Examiner

Art Unit 2837

ROBERT E. NAPPI
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